

## REMARKS

Claims 1-6, 8-12 and 14-18 were canceled. Claims 7 and 13 are currently pending in the present application, all of which have been amended.

### Rejection under 35 U.S.C. § 102

Claims 7-8 and 13-14 were rejected under 35 U.S.C. § 102(b) as being anticipated by *Ohran* (US 5,835,953). Applicants respectfully traverse such rejection insofar as it might apply to the claims as amended herein.

Amended Claim 7 (and similarly Claim 13) now recites a step of "designating one node within a shared storage system an owner node for metadata relating to all input/output (I/O) relationships of a region of storage" and a step of "designating remaining nodes within said shared storage system client nodes."

On page 2 of the Final Office Action, the Examiner asserts that the claimed designating steps are disclosed by Figure 1 of *Ohran* with primary system 12 being characterized as the claimed owner node and backup system 14 being characterized as the claimed client node. Assuming *arguendo* that primary system 12 in Figure 1 of *Ohran* can be characterized as the claimed owner node, and since the Examiner had chosen to characterize backup system 14 as the claimed client node, there still remains one node (*i.e.*, the other primary system 12) left in Figure 1 that was not designated by the Examiner. Since the claimed designating step requires all remaining nodes to be designated as client nodes, such designation will conflict with the Examiner's characterization of primary system 12 since primary system 12 cannot be both the claimed owner node and the claimed client node.

Claim 7 also recites a step of "in response to a host I/O request arriving at one of said client nodes, suspending said I/O request by said one client node and inquiring said owner node if said region of storage associated with said I/O request has been copied."

On page 2 of the Final Office Action, the Examiner asserts that the claimed in response to step and the claimed suspending step are disclosed by *Ohran* in decision block **94** and block **100** of Figure **5**, respectively. According to *Ohran*, decision block **94** allows a primary backup processing block **54** to determine "whether a backup has been initiated by the backup system or whether a backup should be initiated by the primary system" (col. 20, lines 3-4). Regardless of whether the backup was initiated by the backup system or by the primary system, such decision is different from "a host I/O request arriving at one of said client nodes" (emphasis added), as claimed, because both the primary system and the backup system are within the storage system and not from a host.

Block **100** "identifies a logically consistent backup state" (col. 20, lines 55-56). Thus, block **100** was not performed in response to decision block **94**. But more importantly, block **100** does not even mention anything about suspending; thus, it is clear that block **100** does not teach or suggest the claimed suspending step. Moreover, *Ohran* does not teach or suggest the claimed step of "inquiring said owner node if said region of storage associated with said I/O request has been copied."

Claim 7 then recites a step of "placing a lock record by said owner node against an appropriate metadata for said region of storage associated with said I/O request if said region of storage associated with said I/O request has not been copied."

On page 3 of the Final Office Action, the Examiner asserts that the claimed placing step was disclosed by *Ohran* in block **102** of Figure **5**. Block **102** allows an identified logically consistent state to be preserved via a snapshot (col. 20, line 65 - col. 21, line 1). However, taking a snapshot is completely different from "placing a lock record," as claimed.

Also, the lock record is placed by the claimed owner node. In contrast, *Ohran*'s snapshot was not taken by primary system **12**—the entity that the Examiner had previously characterized as the claimed owner node.

Claim 7 further recites a step of "if said I/O request is a Target Read, transferring data to a host by said one client..." On page 3 of the Final Office Action, the Examiner asserts that the claimed I/O request was disclosed by *Ohran* in block **112** of Figure 6. The claimed I/O request in the claimed transferring step is the same I/O request from the above-mentioned suspending step. However, block **112** is related to a backup read request, which is different from what the Examiner had characterized as the claimed I/O request previously.

In addition, Claim 7 recites a step of "if said I/O request is a Target Write or Source Write, performing a copy-on-write by said one client node, and sending an UNLC request to said owner node by said one client node at the completion of said copy-on-write" and a step of "upon the receipt of said UNLD message, releasing said suspended write operation by said one client node and completing said write operation to said host." The claimed performing, sending and releasing steps are not disclosed by *Ohran*.


Because the claimed invention recites novel features that are not disclosed by *Ohran*, the § 102 rejection is believed to be overcome.

### CONCLUSION

Claims 7 and 13 are currently pending in the present application. Applicants believe that Claims 7 and 13 are in condition for allowance. The remaining prior art cited by the Examiner but not relied upon has been reviewed and is not believed to show or suggest the claimed invention.

No fee or extension of time is believed to be necessary; however, in the event that any addition fee or extension of time is required for the prosecution of the present application, please charge it against IBM Deposit Account No. **09-0449**.

Respectfully submitted,



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